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Web Site's Findability and Company's Image

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Abstract

It the mid 1990s many corporate executives realised that websites might influence companies' image immensely. Nowadays it is evident that in e-business environment this influence is becoming more visible. Furthermore, the companies' perceptions of the importance of the customers' impressions of web sites play a vital role in a company's success. In this paper we investigate the change of the perceptions of company's image after visiting and evaluating their web sites; and the influence of particular features of a web site such as the intuitive URL, intuitive keywords, use of Meta tags and frames, etc., on a company's image.

Keywords: Web site, Findability, Australia

BACKGROUND

In the mid 1990s many corporate executives realised that web site might influence companies' image immensely (Dyson, 1997). A few years later managing company's web image was a major focus for many executives (Jon, 2001). According to Zhang and Dran (2002), customers' perceptions of web sites are very important for company's success, particularly in the e-business arena.

A body of literature that looks at the "why do customers like web sites" phenomenon points out that there is evidence that consumers undergo attitudinal changes after visiting a web site. This is very important because the whole idea might be in attracting so-called "right" customers, instead of being focused on attracting large number of customers (Huizingh and Hoekstra, 2003). After all one of the most noticeable benefits that a company can attain from paying considerable attention and having a well designed web site is competitive advantage (Yang, et al 2003).

According to Bock (1999), the design of the web site is capable of helping companies to achieve profit, simply by providing appropriate links that can help people to move through information efficiently. Another way of increasing companies' revenue and profit is to have a web site that is very easy to use (Vredenburg, 2003).

As the businesses exploiting ways how to facilitate more effective transformations to the web-enabled business environments (Chatterjee, et al, 2002), the focus of web designers is on the improvement of the user experiences, and therefore web design is becoming more and more business driven and less and less technology driven (Vredenburg, 2003). Furthermore, as web sites represent companies' primary interface with the customers, the quality of the web sites is crucial for bringing in the benefits. Important features in that respect include web site attractiveness, systematic structure, navigation, etc. (Supphellen and Nysveen, 2001; Kim et al, 2003). On the other hand, an ability to easy find a company's web site has to be exploited and seized as this can affect company's current business model, branding, relationships, etc. (Madnick and Siegel, 2002).

This research was inspired by an investigation of the influence of some of the web site features on the consumers' attitudes toward e-service retailers by Rose and Straub (2001). More particularly, they were looking at the influence of download time on consumer attitudes, in a laboratory experiment that involved a small sample of 42 undergraduate and MBA students from a large US university. Despite anecdotal evidence, the results from the experiment, however, did not support the hypothesis that download delay has negative impact on consumer attitude toward web retailer. Regardless of the small sample of subjects used in this experiment, the study has provided a valuable insight into the relationship between the download delay and customer's attitudes

toward web retailers; and plenty of ideas for future research. Indeed it has inspired us to investigate the possible influence of a number of web site features on a company's image.

A review of the literature for this research has revealed the influence of certain web site features such as download time, first impressions and web site design (Rose and Straub, 2001; Schenkman and Jonsson, 2000; and Otto et al, 2003) on "switching" behaviour of the users and consequently on company/brand image. The literature has also revealed some of the benefits that companies might be able to achieve (such as competitive advantage, business effectiveness, customer loyalty, and achievement of real integration in the organisation, etc.) by focusing their attention on improving various web site features (Bock, 1999; McGovern, 2000; Sternberg, 2002; Yang et al, 2003; Vredenburg, 2003).

In a survey conducted among adults who had used the Internet in England in 2001 (Waite and Harrison, 2002), 73% of participants reported that the main purpose of using the Internet was to find information about goods and services. Thus the issue about the findability of company's web site deserves particular attention. An example of this issue influencing business positions of many participants in a particular industry has been given by Stergiou and Airey (2003), who concluded that being able to make an inquiry and find the right information in the hospitality and tourism industry has already been influencing customers' decision regarding the destination choice.

RESEARCH METHODOLOGY

This research is a part of a much larger research/investigation into the influence of a number of categories of web site features (ten in total) on companies' image. The aim of this particular part of research was to explore whether making it easy to find company's web site influences the image of that particular company. The aim also was to investigate how, and if, the "evaluation" of a company's web site by potential customers influences the change in their perceptions about that company's image. Finally, we wanted to explore the possible relationships, if any, between a company's web site's features and the image of the company. The research was guided by the following questions:

1. Does visiting and "evaluating" web sites by potential customers change their perceptions about a company's image?
2. What are the most important features regarding findability on a web site?
3. What is the relationship, if any, between the particular features of the web site and the image of the company?

It is possible to evaluate web sites using variety of evaluation categories. As there is little evidence about a consensus among researchers about appropriate criteria for that evaluation (Kim, et al, 2003, Wang and Tang, 2003), we adapted the Web Effectiveness Review tool developed at Trinity College, Dublin by Dan Remenyi. ([www://mcil.co.uk](http://www.mcil.co.uk) accessed 20/03/2004) for the evaluation of these particular web sites, because it was arguably the most comprehensive tool available (involving 10 major criteria with 77 subcriteria).

This research was accomplished in three phases. In the first phase a group of 113 students from an Australian university were given a task to evaluate one web site each using the MCIL website effectiveness review tool, available on (<http://www.mcil.co.uk/>). The participants were upper level undergraduates (Bachelor of Information Systems - BIS), MBA students and Master of Information Systems (MIS). The use of these groups of students was considered to be appropriate as they all were to some extent computer literate and had a certain level of exposure to WWW, IS and IT issues. Our decision to use students in this study can be supported by other similar studies undertaken elsewhere, that also used students in their research, such as Rose and Straub (2001), and Agarwal and Venkatesh (2002). In the second phase collated data were analysed using qualitative and quantitative techniques. Findings and conclusions were drawn in the third phase.

In the first instance, the participants were asked to record their opinion about the image of the companies whose web sites they will be evaluating, on a scale from 1 to 10, 1 indicating a poor image and 10 indicating an excellent image. Prior to that the participants were given a definition and appropriate explanations of the term "image", as well as instructions regarding measuring the image pre and post evaluations.

Secondly, participants were introduced to the MCIL tool and asked to indicate their opinions about the importance of particular features on web sites regarding the criteria for evaluation called "findability". Even though the participants were asked to evaluate particular web sites regarding one category, in reality they were looking at importance of the 8 following criteria:

1. Having an intuitive URL
2. Using intuitive - strategic keywords on the web site

3. Using Meta tags
4. Using frames
5. On-line advertising
6. On-line recommended a friend
7. Having partner and affiliate sites
8. Off-line advertising

Participants were asked to record their answers on an ordinal Likert scale, ranging from 1 indicating low level of importance to 10 indicating high level of importance. Likert and similar scales have been used by many researchers in information systems and other fields, such as Lawrence et al., (1993); Boynton et al. (1994); Blackwell (1995); Gearson et al. (1995); Revenaugh et al., (1997); Rose and Straub, (2001).

Finally, the participants were asked to express their opinion about the image of the companies, after they evaluated their web sites, again on a scale from 1 to 10, 1 indicating a poor image and 10 indicating an excellent image.

FINDINGS

As the acquired data were measured on an ordinal scale, it was appropriate to perform non-parametric statistical tests (Siegel, 1988). The conducted statistical analyses included the Sign Test, Correlation Analysis, Kruskal-Wallis, etc. The Sign Test was conducted to establish whether the participants changed their opinions about company's image after evaluating their web sites. The Sign test helped to gain an insight into the perceived companies' image before the students evaluated their web sites and afterwards. This test is often used on occasions such as "pre-test post-test" (Cramer, 1998) and "before and after study" (Siegel, 1988).

Similar research with pre-adoption and post adoption examination had been undertaken in the information systems fields by authors such as Kaharana et al. (1999). Correlation analysis was conducted to see if a relationship between the particular features of the web sites and the image of the companies existed. Finally, a Kruskal-Wallis test was conducted to investigate differences for each of the web site features across the three groups of participants.

The sign test gave an indication about the changes in perceptions about companies' image after the evaluation of their web sites took place. The results of the Sign test are presented in Table 1.

Pre-evaluation (Mean)	Post-evaluation (Mean)	Sign test P- value
7.4908	7.8047	.278

Table 1: Results of the Sign Test for Image in the Entire sample

According to the results of the Sign test the differences between pre-evaluation and post-evaluation existed. If we, however, look at the P-value of the sign test performed, the difference was not statistically significant (>.05).

Overall, therefore the results of the Sign test indicated that in the entire sample, features regarding the findability of the web sites did not have significant impact on the image of companies whose web sites were evaluated.

To find out whether the web site features had an impact on companies' image among different groups of participants, the Sign Test was performed using the data collated in three separate groups, namely MBA, MIS and BIS. The results of the Sign Test in these three groups are presented in Table 2.

MBA			MIS			BIS		
Pre-ev. mean	Post-ev. mean	S Test Signif.	Pre-ev. mean	Post-ev. mean	S Test Signif.	Pre-ev. mean	Post-ev. mean	S Test Signif.
7.4865	7.9639	.472	7.440	8.2500	.021	7.5213	7.4478	.626

Table 2: Results of the Sign Test for Image in MBA, MIS and BIS

According to the results of the Sign test the differences in images between pre-evaluation and post-evaluation existed. However, according to P-values of the Sign test, the difference was statistically significant only in Master of Information Systems group (shaded). Thus only students from MIS course significantly changed their attitudes towards the companies' image after the evaluation of their web sites. The fact that students in the Master of Information Systems are more informed or appreciative of the IS and IT issues than their colleagues in MBA or BIS might be the reasons for that.

To establish the rank of the importance of web site features in the entire sample of students, their medians were computed. A table containing a descending order of features of web sites from the Likert scale data is presented below.

Rank	Features	Median	No of responses
1	Having an intuitive URL	9.0000	113
2	On-line advertising	9.0000	111
2	Using intuitive - strategic keywords on the web	9.0000	111
4	Having partner and affiliate sites	8.0000	109
4	On-line recommended a friend	8.0000	109
6	Using frames	8.0000	108
7	Off-line advertising	7.0000	102
8	Using Meta tags	7.0000	97

Table 3: Rank Order for Web Site Features in the Entire Sample

From the Table 3 it can be concluded that the most important web site features in the entire sample include: Having an intuitive URL, on-line advertising, using intuitive - strategic keywords on the web, having partner and affiliate sites, on-line recommended a friend, etc.

In order to find out if there is a difference in ranking the importance of web site features in the three groups, and those in the entire sample, the same computations were undertaken. The analysis has shown that the majority of features in these groups have similar rankings to those in the entire sample. The summary table and the analysis are presented below.

Samples	R	A		N	K
	1	2	3	4	5
Entire sample	Having an intuitive URL	On-line advertising	Using intuitive - strategic keywords on the web	Having partner and affiliate sites	On-line recommended a friend
MBA sample	Using intuitive - strategic keywords on the web	Having an intuitive URL	Having partner and affiliate sites	Off-line advertising	On-line advertising
MIS sample	Having an intuitive URL	On-line advertising	Using intuitive - strategic keywords on the web	Having partner and affiliate sites	Using Meta tags
BIS sample	On-line advertising	Having an intuitive URL	On-line recommended a friend	Using Meta tags	Using frames

Table 4: Top Five Features in Entire Sample and Three Groups of Students

If we compare the top five features of the web site for the three groups of students, with the top 5 features for the entire sample we can see the following:

- 80% of the top five features in the MBA group are represented in the top 5 feature for the entire sample.

- 80% of the top five features in the MIS group are represented in the top 5 features for the entire sample.
- 60% of the top five features in the BIS group are represented in the top 5 features for the entire sample.

It can be seen from this comparison that the majority of highest ranked features in the three groups cited are very similarly ranked in the entire population.

In order to find out whether the differences for each of the web site features across the three groups are *statistically significant*, Kruskal-Wallis tests were performed. Because it allows analysis of more than two independent groups of ordinal data (Christensen et al., 1986) the Kruskal-Wallis test is generally conducted in order to find out whether the differences among the samples signify real population differences or the kind of variations to be expected from the same population (Siegel, 1988). The results of Kruskal-Wallis test for web site features from the three groups of students are presented below.

Features	MBA (Significance)	MIS (Significance)	BIS (Significance)
Having an intuitive URL	.773	.886	.559
On-line advertising	.103	.373	.795
Using intuitive - strategic keywords on the web	.349	.259	.551
Having partner and affiliate sites	.000	.402	.870
On-line recommended a friend	.000	.359	.375
Using frames	.000	.792	.650
Off-line advertising	.000	.667	.535
Using Meta tags	.000	.955	.295

Table 5: Kruskal Wallis Test for Web Site Features

The results from the table above suggested that all of the variations in the MIS and BIS groups were of the kind to be expected among the samples from the same population. All the differences, however, that were suggested to be statistically significant were in the MBA group (shaded). These signify real population differences and may indicate a different approach to web site issues in this group of students as discussed in a section below. However, the real reason for it to be more prevalent in one group than in another was not identified from this research, and could be a topic for further research.

To establish whether the relationship between the companies' image and particular features of their web sites exist, a correlation analysis was conducted. The correlation analysis indicated that a number of web site features were correlated with the image as well as statistically significant. These correlations are presented in Table 6 (outlined in four subsections: ENTIRE SAMPLE, MBA, MIS and BIS).

ENTIRE SAMPLE	WEB SITE FEATURES	Sig.
Image	Having an intuitive URL	.011
	On-line advertising	.027
MBA		
Image	Having an intuitive URL	.000
	Using intuitive - strategic keywords on the web	.017
MIS		
Image	Having an intuitive URL	.041
	On-line advertising	.050
BIS		
Image	Using Meta tags	.035
	On-line recommended a friend	.050

Table 6: Correlations between Companies' Image and Web Site Features

DISCUSSION

Even though for the entire sample of students the image of the companies did not change after the evaluation of their web sites, compared to the image before the evaluation, the image appeared to be influenced in populations of individuals who have had a high exposure to IT. According to results of this study (when analysed as separate groups: MBA, MIS and BIS), the perceptions of companies' images changed after the evaluation of their web sites only in one group (MIS). This could be explained by the fact that this group of students is much longer exposed to IS and IT issues and therefore paying more attention to these particular issues.

Looking at the findability as a criterion in evaluating web sites, in the entire sample, the highest ranked features include: Having an intuitive URL, on-line advertising, using intuitive - strategic keywords on the web, having partner and affiliate sites, on-line recommended a friend, etc. Very similar rankings are found throughout the three groups of participants, with 60% to 80% of top 5 ranked features in each group represented in the top 5 ranked in the entire sample.

There were no significant differences regarding features in the first impressions criterion in MIS and BIS groups compared to entire sample, as all the variations in them were of the kind to be expected among the samples from the same population.

There were significant differences in majority of the features in the findability criterion in MBA group compared to entire sample, as the variations in them signify real population differences. This difference may be due to the MBA group having a higher level of exposure to business rather than to IS or IT issues.

The web site features significantly influencing company's image include: Having an intuitive URL, On-line advertising, using intuitive - strategic keywords on the web, using Meta tags, and on-line recommended a friend.

As this paper represents a starting point into a more comprehensive research about the influence of various web site features on the company's image, the participants were not asked to focus on a web sites of companies from a particular industry or the nature of e-business. Our future research will focus on these and other issues.

CONCLUSION

The perceptions of companies' images changed after the evaluation of their web sites by a group of students, indicating significant influence of the evaluation process on the companies' image.

The highest ranked web site features included: Having an intuitive URL, on-line advertising, using intuitive - strategic keywords on the web, having partner and affiliate sites, on-line recommended a friend, etc.

The following web site features had the most significant influence on a company's image: Having an intuitive URL, on-line advertising, using intuitive - strategic keywords on the web, using Meta tags, and on-line recommended a friend.

A limitation of this study, as in Rose and Straub (2001), is a relatively small sample size, therefore preventing us to draw more grounded implications, as well as having a very limited generalisability. The sample of students used in this evaluation is a convenient sample used to gain an insight into the influence of various features of a web site on a company's image. The authors are aware that this sample does not represent general population of web users, and in the future research an attempt will be made to bring in general population rather than just university students. Nevertheless, the findings provide an insight into the features of findability of web sites from the point of view of computer literate senior Undergraduate and Masters Students. Finally, the findings of this study are in line with other similar studies undertaken elsewhere (Zhang et al, 2001; Rose and Straub, 2001; Madnick and Siegel, 2002;Huizingh and Hoekstra, 2003;Stergiou and Airey, 2003, etc.). In future research we intend to build on these findings to further explore possible relationships between website features and company's image.

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